REMARKS

This application pertains to a novel method and appliance for performing membrane electrophoresis.

Claims 1-26 are pending.

Applicants note with appreciation that claims 2 – 18 are allowed.

Claims 1 and 19 are objected to because of informalities. Applicants have corrected claims 1 and 19 to correctly recite “diluate” in stead of “dilute”.

Claims 19-22 and 24-25 stand rejected under 35 U.S.C. 102(b) as being anticipated by Sanchez et al (US 4,758,320).

Concerning Claim 19, the Examiner states that Sanchez discloses an appliance with an at least quadripartite separation chamber, by referring to Figure 1 of Sanchez et al.

Within Figure 1 counting of existent spaces, potentially forming separation chambers yields a number of eleven spaces, whereby two spaces (10) form electrode spaces and hence nine “compartments 4, 5… which are alternatingly supplied with an electrolytic solution at low pressure (…) and with high pressure by the solution to be treated” do prevail. As there is an uneven number of “compartments” the concept of

Applicants' invention of separation chambers being formed by pairs of diluate spaces (16) and concentrate spaces (17) is not found to be disclosed by referring to Figure 1 of Sanchez.

Further the Examiner refers to Example 4 by referring to col 6, lines 46-64 of Sanchez et al. disclosing "solvent-impermeable electrodialyitc membranes 14 and 15". Thereon the examiner contends that these "solvent-impermeable electrodialyitc membranes" can be read to be Applicants' "restriction membranes".

Even if these membranes would be read as being Applicants' restriction membranes, the Examiner should note that the membranes 14 and 15 are part of Figure 4, further disclosing "high pressure 5c, low pressure 4c, 4c'" compartments, bounded by the membranes 14 and 15 (col. 6, lines 58 – 61). Accordingly Sanchez et al. again discloses an uneven number of compartments within Figure 4, yielding that the inventive concept of Applicants' appliance of pairs of diluate spaces (16) and concentrate spaces (17) is not found to be disclosed.

Additionally, Applicants' appliance according to Claim 19 comprises pairs of diluate/concentrate spaces, wherein the diluate and concentrate spaces are separated from each other by ultrafiltration or microfiltration membranes and each pair of diluate and concentrate space, is separated from the adjacent separation chamber or cathode/anode space by a restriction membrane.

There is absolutely nothing in the Sanchez et al. reference that would teach or suggest the use of restriction membranes to delimit the pairs of diluate/concentrate spaces from each other, if there be more than one. There is also no reading of Sanchez et al. that a pair of diluate/concentrate spaces is delimited by restriction membranes, if there is only one pair. The Sanchez reference cannot therefore be seen as teaching or

suggesting Applicants' novel appliance, and the rejection of claim 19 under 35 U.S.C. 102(b) as being anticipated by Sanchez et al (US 4,758,320) should now be withdrawn. As claims 20-22 and 24-25 are dependent on claim 19 the rejection of these under 35 U.S.C. 102(b) as being anticipated by Sanchez et al (US 4,758,320) should now be withdrawn as well.

Claims 19-22, 24 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez et al. in view of Ogle et al. (US 2003/0019753 A1).

The Examiner contends that Ogle discloses use of restriction membranes, by stating that the membranes employed by Ogle et al. (paragraph 0165) have a cutoff of 500 Dalton. Referring to that example, Ogle discloses membranes of a cutoff of 5000 Dalton.

Ogle et al. further discloses that he intended to separate a mixture of immunoglobulin G (IgG) from human plasma (paragraph 0164). Ogle et al. finds that the IgG could cross the 1,000,000 Dalton barrier towards the cathode, while being incapable of crossing the 100,000 Dalton barrier. Furthermore the low molecular mass proteins are found to cross even the 100,000 Dalton barrier and being trapped in chambers 1, 4, 7 and 10 (paragraph 167). Both of which is the desired effect of Ogle et al. wanting to separate IgG from human plasma. Hence Ogle et al. uses its barriers to separate entities from each other, simply due to hindering passage. Ogle does not teach or suggest that the barriers employed might serve other purposes than restricting convective transport (paragraph 0019) or conducting the before detailed separation task of the entities to be separated.

Applicant discloses in Example 1 separation of IgG from human serum albumin. Doing that Applicant discloses use of a restriction membrane having a cutoff of 10,000

Dalton and use of a separation membrane having a cutoff of 300,000 Dalton.

It should be kept in mind that someone ordinary skilled in the art knows, that IgG has an average molecular weight of 150,000 Dalton.

Accordingly Applicants' process does not rely on the separation membrane to restrict the IgG from passage. Hence the separation mechanism of Applicants' process needs to be entirely different from that of Ogle et al. and is therefore not clear how someone skilled in the art would refer to Ogle et al. for overcoming the discrepancies between Applicants' appliance and that of Sanchez et al.

Even if one would refer to Ogle et al., it is still unclear to someone ordinary skilled in the art which of the multitude of barriers employed by Ogle et al. should be considered to be similar to the restriction membrane and how that barrier should be distinguished from the separation membrane of Applicants' appliance, as all barriers in the disclosure from Ogle et al. do restrict passage of entities.

From the foregoing, it is clear that Applicants' claims are neither anticipated nor obvious over Sanchez in view of Ogle et al., and the rejection of claim 19 under 35 U.S.C. 103(a) as obvious over Sanchez et al. in view of Ogle et al. (US 2003/0019753 A1) should now be withdrawn.

As claims 20-22 and 24-25 are dependent on claim 19 the rejection of these under 35 U.S.C. 103(a) as obvious over Sanchez et al. in view of Ogle et al. (US 2003/0019753 A1)should now be withdrawn as well

No reading of Gritzner (US 4,043,895) can help overcoming the discrepancies outlined above and argued in previous responses to office actions with regard to Claim 23. Same applies to Ahlgren et al. (US 4,043,896) reference.

From the foregoing, it is clear that Applicants' claims 19-26 are not obvious over Sanchez in view of Ogle at al., nor obvious over Sanchez in view of Ogle at al. and in further view of Gritzner, nor obvious over Sanchez in view of Ogle al. and in further view of Ahlgren et al. and the rejection of claims 19-26 under 35 U.S.C. 103(a) as obvious over Sanchez et al. and Ogle (US 2003/0019753 A1) and in further view of Ahlgren et al. (US 4,043,896) or Gritzner (US 4,043,895) should now be withdrawn.

In view of the present amendments and remarks it is believed that claims 1-26 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested and the allowance thereof is courteously solicited.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicant requests that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,
NORRIS, McLAUGHLIN & MARCUS

By /William C. Gerstenzang/
William C. Gerstenzang
Reg. No. 27,552

WCG/tmh

875 Third Avenue- 18th Floor
New York, New York 10022
(212) 808-0700